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Colleges for the Benefit of Agriculture and the Mechanic Arts

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COLLEGES FOR THE BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS.

Mr. NELSON presented the following

STATEMENT IN SUPPORT OF SENATE BILL NO. 6680, ENTITLED "A BILL TO PROVIDE FOR AN INCREASED ANNUAL APPROPRIATION FOR THE COLLEGES FOR THE BENEFIT OF AGRICULTURE AND THE MECHANIC ARTS, ESTABLISHED AND MAINTAINED UNDER THE PROVISIONS OF THE ACT OF CONGRESS APPROVED JULY 2, 1862, AND THE ACT OF CONGRESS APPROVED AUGUST 30, 1890."

JANUARY 7, 1907.—Referred to the Committee on Agriculture and Forestry and ordered to be printed.

A BILL To provide for an increased annual appropriation for the colleges for the benefit of agriculture and the mechanic arts, established and maintained under the provisions of the act of Congress approved July second, eighteen hundred and sixty-two, and the act of Congress approved August thirtieth, eighteen hundred and ninety.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and hereby is, annually appropriated, out of any money in the Treasury not otherwise appropriated, to be paid as hereinafter provided, to each State and Territory for the more complete endowment and maintenance of agricultural colleges now established, or which may hereafter be established, in accordance with the act of Congress approved July second, eighteen hundred and sixty-two, and the act of Congress approved August thirtieth, eighteen hundred and ninety, the sum of five thousand dollars, in addition to the sums named in the said act, for the fiscal year ending June thirtieth, nineteen hundred and eight, and an annual increase of the amount of such appropriation thereafter for four years by an additional sum of five thousand dollars over the preceding year, and the annual sum to be paid thereafter to each State and Territory shall be fifty thousand dollars, to be applied only for the purposes of the agricultural colleges as defined and limited in the act of Congress approved July second, eighteen hundred and sixty-two, and the act of Congress approved August thirtieth, eighteen hundred and ninety.

SEC. 2. That the sum hereby appropriated to the States and Territories for the further endowment and support of the colleges shall be paid by, to, and in the manner prescribed by the act of Congress approved August thirtieth, eighteen hundred and ninety, entitled "An act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of the act of Congress approved July second, eighteen hundred and sixty-two," and the expenditure of the said money shall be governed in all respects by the provisions of the said act of Congress approved July second, eighteen hundred and sixty-two, and the said act of Congress approved August thirtieth, eighteen hundred and ninety: *Provided,* That said colleges may use a portion of this money for providing courses for the special preparation of instructors for teaching the elements of agriculture and the mechanic arts.

SEC. 3. That Congress may at any time amend, suspend, or repeal any or all of the provisions of this act.

The purpose of this bill is to enlarge the work of the 65 State colleges of agriculture and the mechanic arts.

These colleges were organized under Congressional initiative in 1862. Each State was offered an endowment of public lands if it would enter upon the task of inaugurating education in the industries. This land was apportioned to the total number of Senators and Representatives, each respective State to receive as many times 30,000 acres as it had Senators and Representatives in Congress. Thus 10,233,169 acres of land were given to the States for this purpose. This land has now nearly all been sold, and the invested endowment is $12,049,626, yielding an average annual income, which alone can be expended, of $721,492, an average of $15,031 for the land-grant colleges in each of the 48 States and Territories.

In 1890 Congress, in the second Morrill Act, supplemented this endowment by the appropriation of $25,000 for each State and Territory, thus providing each with the present average of $40,031 per annum from the Federal Treasury, an annual total of $1,921,492.

Under the provision of the acts named, each State was required to purchase lands and erect buildings from State funds. Lands, buildings, and equipments valued at $45,836,731, or an average of $954,932, have thus been provided by the respective States and Territories.

The State colleges have become very useful and the States have added materially to their support. The total current expense funds thus supplied by the States aggregated for the year 1905 the sum of $3,048,422, an average of about $65,000 for each State.

The sum supplied by the Federal Government and the sum supplied by the States for current expense or maintenance funds aggregated $4,969,914, an average of $103,540 for each State. Thus the Federal Government supplies 38.6 per cent and the States 61.4 per cent of the support of these institutions.

But in 1905 the colleges also received for buildings and other purposes from the States and other local sources (including fees) a total of $6,700,280, so that in reality the States contributed $9,748,702, which is nearly 83 per cent of the total income for educational purposes of the land-grant colleges.

In 1887 Congress followed up its initiative of inducing the States to establish colleges for instruction in agriculture and the mechanic arts by taking the initiative in establishing a system of State agricultural experiment stations. That act appropriates annually to each State the sum of $15,000 for investigations in agriculture. Under the Adams Act of 1906 each State experiment station will soon receive from the Federal Government an additional sum of $15,000, making a total of $30,000 annually. The States supplement this sum with $540,467 of State funds, or $11,260 per State.

Another movement has grown out of the establishment of agricultural colleges. Beginning in Minnesota in 1888 the States took the initiative in beginning the establishment of agricultural high schools or secondary schools devoted to education in farming and in home making for the young people of the farm. The first of these agricultural high schools were established on the grounds of the State colleges, taking the place of preparatory courses therefore found necessary in agricultural and other colleges for the farm youth who came from the irregular work of the rural schools. In more recent years the pronounced practical success of these secondary agricultural high

schools has led to the establishment of a number of branch agricultural high schools. The States have established these schools, respectively, as follows: Districts of several counties: Minnesota, 2; Nebraska, 1; North Dakota, 1; South Dakota, 1; Oklahoma, 1; Maine, 1; Alabama, 9; Georgia, 11; New York, 1; Rhode Island, 1; Washington, 1; a total of 30.

Districts of one county: Wisconsin, 2; Kansas, 1; Tennessee, 1; Maryland, 1; a total of 5.

It seems probable that all States will follow Alabama and Georgia and establish systems of agricultural high schools, as each city has established public high schools, thus providing secondary schools for farmers as well as for city pupils.

About the beginning of the new century a movement was begun in Ohio, Indiana, and other States to consolidate the one-room rural schools into larger and more efficient units. These schools are provided with vans in which to haul the pupils to and from a large graded school, in a district now containing several of the little districts or covering an area of about 25 square miles. There are now about 200 of these consolidated rural schools. These are gradually being made into real rural schools, by the introduction into their courses of study of instruction in agriculture and home economics.

Since experiments have demonstrated that but little of instruction in agriculture and home economics can be successfully introduced into the isolated country school and that the elements of these subjects can be well taught in consolidated rural schools, there is no doubt that the rural school system will be generally reorganized.

Since there are about 3,000 agricultural counties in this country, the States, in order to supply one agricultural high school to each district of 10 counties, must establish, equip, and maintain 300 agricultural high schools. According to the census of 1900, there were 838,000,000 acres in farms or 1,250,000 square miles. If the entire country were supplied there would be required 50,000 consolidated rural schools each to supply a district of 25 square miles. Smaller areas than 5 to 15 counties for agricultural high schools, and smaller districts than 20 to 30 square miles for consolidated rural schools, would considerably increase the total cost. Besides being cheaper the larger districts, it is believed by many who know most concerning the experiments with these two classes of schools, provide a far more efficient system of education for farm youth than do the smaller districts.

During the first three decades of the history of the State colleges of agriculture and the mechanics' arts their most rapid and popular development was along the lines of engineering and the mechanical industries. The teachers of these subjects found subject matter easily reducible to pedagogical form, and students found that the definite instruction and practice work along these lines gave good training and led to salaried positions in our rapidly developing manufacturing and transportation industries. Agriculture, on the other hand, at first afforded no sufficiently organized body of knowledge which teachers could present in a strong way to students, and there were few salaried positions open in agriculture. During the past decade, however, owing to the wisdom of Congress in passing the Hatch Act establishing State experiment stations and in appropriating money for research in the Federal Department of Agriculture, which

are rapidly adding to the body of knowledge, agricultural instruction has risen to a splendid status. Not only have the subject matter and the laboratory and practice work in agricultural courses been brought up to a position comparable with instruction in engineering, but there is a largely increased demand at good salaries for technical workers, as in departments of agriculture, experiment stations, agricultural schools, and agricultural newspapers.

It may be said that at present we have a splendid start at a system of industrial education. To the State colleges of agriculture and mechanic arts we may largely attribute the development of instruction in manual training and mechanic arts in our city schools. The capital city of Minnesota, one of the first to thoroughly equip a mechanic arts high school, is now but one of many examples of cities in which young men are prepared to aid in working up the industries of a city. Manual training, nature study, and school gardening in the city primary schools also are outgrowths of the work Congress inaugurated when it passed the first Morrill Act, establishing State colleges of agriculture and the mechanic arts.

These same colleges have also done the country a pronounced service in inaugurating instruction in home economics. This relatively inexpensive line of teaching is now rapidly extending from the State colleges into all other colleges, secondary schools, and primary schools wherever girls are taught separately or in coeducational institutions. This one line of instruction alone is of vastly greater value than the total cost to the nation and States of all these colleges.

It is not too much to say that through the Morrill Act of 1862 and subsequent acts Congress has wrought a revolution in American education as well as in American agriculture. The old educational ideals, growing out of the purely church schools, which even yet may be not far wrong in training ministers of the gospel, have slowly given way to the far broader ideals for a system of public education suited to the needs alike of workers, business men, home makers, technicians, and professionals. The new education, while retaining the high moral and ethical ideals of the old, combines with these substantial training in doing the things of everyday life. It develops at once the high ideals and the ability to succeed in carrying them out. It trains to think by thinking and it trains to do by doing. By broadening out the course of study early in the child's school life, allowing it to taste both of things literary and things practical, each pupil has a basis for judgment as to what line of activity he is best fitted to enjoy and in which he can best hope to compete with his fellows. This broadening out of the school curriculum provides students better selected to go forward into the various technical college courses, because intelligent finding of themselves is far better than being pushed into a given life's work by parental initiative. The land-grant act of 1862 did not merely establish a system of schools; it inaugurated a permanent system of education American in its ideals and in its results. Congress can not do too much to further recognize this fact and to help the States in completing the broadest kind of a system of public education, with the nonpublic schools so woven into the scheme as best to supplement it for ethical and religious training.

These land-grant colleges have influenced the nonagricultural industries to nearly as great a degree as they have improved agricul-

ture. The engineering courses in these colleges have supplied a large share of the men who have made it possible to develop our vast systems of transportation and manufacturing and to erect our great cities. They have provided a large body of teachers of the science and technique of the industries and of home economics for the other schools. They are the forerunners of the city mechanic arts high school, and of the introduction of industrial and manual training subjects into the city graded schools. Our cities are coming rapidly to see that these schools are most useful in developing a strong class of technicians and artisans prepared to establish and man within their borders manufacturing industries and transportation enterprises. The engineering departments of our land-grant colleges at the top, city mechanic arts high schools in the middle, and the manual training classes of primary graded schools at the base are being evolved into a system of ladders up which the mechanically inclined youth of our cities are learning to climb and from which they are bringing greater efficiency to our labor, artisan, and engineering classes. The degree to which we, as a nation, shall distance other nations in manufacture, if not indeed in the development of transportation and in the erection of cities, will in no small part depend upon the rounding out of the technical education of those who are to work in our mechanical industries. The use of federal funds to enable the engineering departments of our land-grant colleges to lead onward and upward in this educational movement has in every way proved justifiable.

The agricultural departments of our State colleges are recently having a most substantial development, and from them is springing a brood of agricultural high schools and a still larger brood of consolidated rural schools. In the 35 agricultural high schools and nearly 200 township or consolidated schools in rural communities courses of study have been devised and used in which the general school subjects and the agricultural and home economics subjects are interwoven and graded from the primary class throughout the entire eight years of the rural school, the four years of the agricultural high school, and the four years of the agricultural college. These courses have become so universally successful that even conservative educators of the old school acknowledge that the new education initiated by Congress in 1862 is destined to revolutionize country life and the rural industries.

That the people are generally awakening to the value of educating the boy and girl who are to remain on our farms has recently been most emphatically proved in the State of Georgia. A law was passed last July appropriating about $66,000 annually for the support of an agricultural high school in each of the eleven Congressional districts of that progressive State, just now grandly rising from its industrial inundation of nearly half a century ago. This appropriation was given on condition that each locality securing one of these schools should provide a good school and experiment farm and suitable buildings with which to start a school. Governor Terrell has just completed a canvass of the State, and the towns and counties securing these schools have given the State an average of nearly 300 acres of land and several hundred thousands of dollars for buildings and equipment, altogether costing the individual contributors over $800,000. Secretary of Agriculture Wilson is quoted as asserting that "this marks a new era in Georgia," and that "Georgia will now lead the South into a new agriculture."

My own State, Minnesota, while I was a member of the regency of the university and agricultural college, organized the first original and still the leading American agricultural high school. We congratulate Georgia on being the first to take advantage of this new plan to provide and fully equip institutions of this kind all over the State. Minnesota has recently started a second agricultural high school, and numerous other States have established one or two schools of this kind. Alabama has established a school of this class in each Congressional district, but they have not as yet received the necessary large equipment nor the current expense fund arranged for in Georgia.

Ere long the governments of the world will have expended hundreds of millions of dollars in building up a body of knowledge of agriculture and home making. Selections from this body of practical facts woven in with the literary and general subject-matter of our rural school course will give life to these primary rural schools, which are not now apace with modern progress. Nothing short of the highly developed, so-called consolidated rural schools with specially trained teachers can take this rich and interesting technical education to all the boys and girls who live on the farm. This education so increases the productive capacity of farm youth that from this standpoint alone it will pay its own cost several times over—with better homes, better rural civilization, and a still more highly developed supply of surplus people to send to our cities as additional sources of profit. The welfare of the future fathers and mothers in our farm homes, as well as the welfare of our country as a whole, demands that our farm youth be better schooled both in technique and in general subjects.

Nothing short of a system of State agricultural colleges to supply teachers for agricultural high schools, also technicians in other agricultural lines, and of an agricultural school for each group of 10 counties, can supply the needed 50,000 teachers of agriculture and 50,000 teachers of home economics for a system of consolidated rural schools. And nothing short of 65 agricultural colleges, 300 agricultural high schools, and 50,000 consolidated farm schools will supply our rural communities with a people educated to manage farms and farm homes. Congress started this line of education, and it can do no better work than to recognize that its initiative has made possible the organization of a complete system of education in agriculture and the city industries. The cost of discarding the little rural schools and erecting new, modern, large, central school buildings, of establishing agricultural high schools, and the increased annual expense to the State and community of maintaining the necessary and important secondary and primary schools, will be large. Only the present great prosperity of the American people makes these changes possible.

By aiding in supporting the college of agriculture and mechanics arts, the Federal Government will encourage every State to establish high schools for the boys who are to be farmers and mechanics and for girls who are to manage homes and for those who are to teach practical studies in the primary schools of city and country. This encouragement will not stop with high schools, but will greatly encourage the broadening of the curriculum of our city primary graded schools and the development and consolidation of our rural schools, that the city and the rural industries and the home making may be encouraged, emphasized, and built up.

The demands are constantly increasing for technical workers in the rapidly developing State and national departments of agriculture, in agricultural schools, in experiment stations, in the agricultural press, and in other public and private enterprises needing trained specialists in the various branches of agriculture and home economics. The action of Congress in trebling the expenditures in the Federal Department of Agriculture in a decade is but one illustration of what the demands will become during the next decade. These colleges of agriculture are recruiting institutions where are trained the army of industrial specialists who are to prepare our people to hold their industrial supremacy in the world, and they are getting behind the task we are setting for them. Many of these colleges no longer have the money with which to hold their best men, who are sought by other lines of the work which have better financial support.

It is now eighteen years since Congress increased the allotment for these colleges. As compared with the research and police sides of our splendid agricultural policy, these colleges have been neglected. These institutions have now created a demand that a system of technical high schools and consolidated rural schools be established to carry technical training to all the people. The action of Minnesota, Ohio, Indiana, and other States indicates that soon there will be a widespread demand for teachers in these industrial subjects. The Federal department, the State experiment stations, which are multiplying their branch stations, the rapidly growing agricultural press, and other public and private institutions are growing as never before. As it requires four years to produce college graduates, the colleges must anticipate the demand several years ahead.

We have no institutions better adapted to build up true American citizenship than our agricultural and mechanical colleges, where literary, ethical, scientific, industrial, and military training are blended into a strong, sensible, inspirational scheme of education. Congress did wisely in establishing them, and as this great nation grows in power and in wealth it should further recognize them and build them up.

Our State legislatures and our local communities have the burden of solving the problem of offering a practical education to every boy and girl in the land. Encouragement and material aid from Congress will call them afresh to their tasks. Because the Federal Government has charge of the easy, indirect methods of taxation it secures much more of the people's wealth for public expenditure than do all the States combined. How can Congress better aid the States than by thus returning some of the people's money to be used in promoting and in better supporting the education of the nation's workers?

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